

REMARKS

The scope of the protection has been restricted. Claims 11 and 12 are new.

The claimed invention is directed to a molding composition that contains polycarbonate resin, modified clay and carboxylic acid. The clay and acid are present in the composition in specified amounts and the modified clay is characterized in terms of size and dimensions of its platelets. The inventive composition features impact performance that is significantly better than corresponding compositions that contain no acid.

The experimental results leading to the invention presented in the application (page 8 et seq.) point to the critical effect that carboxylic acid has on the impact performance of the composition. The table below is an extract of these results.

| Example | 2 | 6 | 3 | 7 |
|---------------------------|---------|----------|---------|----------|
| Polycarbonate, wt% | 97.5 | 97.25 | 95. | 94.5 |
| Clay, wt% | 2.5 | 2.5 | 5 | 5 |
| Acid, wt% | -- | 0.25 | -- | 0.5 |
| Impact Performance | | | | |
| Notched Izod, ft-lb/in | 1 | 3 | 0.6 | 2 |
| Unnotched Izod, ft-lb | 57.1 | No break | 13.5 | No Break |
| Multi-axial impact, ft-lb | 27.6 | 46.1 | 2.3 | 40.7 |
| Fracture mode | shatter | Ductile | Brittle | Ductile |

Composition containing polycarbonate and clay (Examples 2 and 3) exhibits impact performance that is inferior to corresponding compositions that additionally contain the claimed acid (Examples 6 and 7).

Claims 1-3 and 5-10 were rejected in the prosecution above under 35 U.S.C.

103(b) said to be unpatentable over Ross et al (U.S. Patent 6,610,770) in view of Beall et al (U.S. Patent 5,804,613).

Ross disclosed a composition having flame retardant properties that contain a polymer (including polycarbonate) and organically modified clay. The organoclay is disclosed in column 8 lines 48 et seq., as a reaction product of

- (a) clay modified with
- (b) quaternary ammonium compound conforming to a formula and the optional
- (c) organic material that is capable of reacting with (b) and for intercalating with component (a).

Applicants respectfully submit that the presently claimed carboxylic acid is (I) incapable of reacting with the claimed quaternary ammonium compound, and (II) incapable of intercalating the claimed clay.

The enclosed declaration by Dr. Chung, a present co-inventor is evidence in support of (I) and the declaration by Professor Manias supports (II).

In view of the above it is submitted that the Ross disclosure falls short of the prima facie case not only for failure to describe particle size but rather for disclosing an organic material that, as the evidence shows, does not embrace the claimed carboxylic acid.

Beall relates to intercalated layered material, including nano-sized clay and disclosed carboxylic acid as intercalate material.

Applicants submit that the art cited in the prosecution of the parent application does not describe the claimed invention and request that these remarks and enclosed Declarations be considered in the examination of this application.

Respectfully submitted,

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